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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,161	03/24/2006	Hansjoerg Haisch	US 20020274-3	2730
22878 7590 10/31/2007 AGILENT TECHNOLOGIES INC. INTELLECTUAL PROPERTY ADMINISTRATION, LEGAL DEPT. MS BLDG. E P.O. BOX 7599 LOVELAND, CO 80537			EXAMINER LYONS, MICHAEL A	
			ART UNIT	PAPER NUMBER
			2877	
			NOTIFICATION DATE	DELIVERY MODE
			10/31/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

IPOPS.LEGAL@agilent.com

Office Action Summary

Application No.

10/518,161

Applicant(s)

HAISCH, HANSJOERG

Examiner

Michael A. Lyons

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>121304</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3 and 7-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 recites the limitation "the ratio" in line 1. There is insufficient antecedent basis for this limitation in the claim. What ratio is being referred to here?

Claim 7 recites the limitation "can be used" in lines 5 and 8 of the claim. The language "can be" renders the claim indefinite, because it is unclear to the examiner whether the signal has to be used in the manner claimed or not. Claims 8-12 are inherently rejected for the same reasons as set forth above, because claims 8-12 are dependent upon claim 7 and therefore include all of the limitations of their parent claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 and 7-11 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Jutamulia (5,647,032).

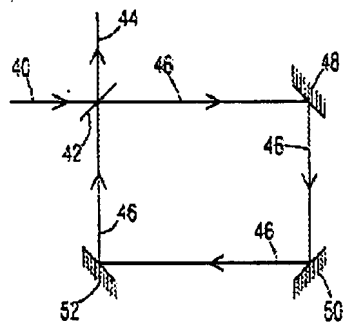


Fig. 2A

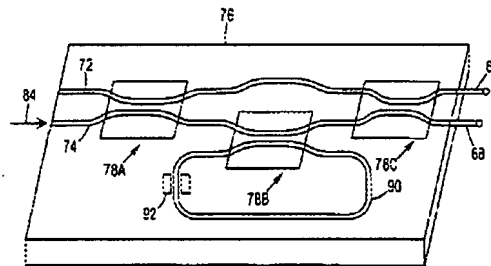


Fig. 5

Regarding claim 1, Jutamulia (Fig 2A, for instance) discloses a method of manipulating an optical signal comprising the steps of splitting the optical signal 40 into a first signal 46 and a second signal 44, using the second signal as a signal undelayed with respect to the optical signal, delaying the first signal with respect to the second signal by sending the second signal on a path comprising mirrors 48, 50, and 52, splitting the first signal in to a first part that is reflected by splitter 42 and a second part that is transmitted through splitter 42, using the second part of the first signal as a delayed signal that is interferometrically combined with undelayed beam 44, and repeating the steps with the first part of the first signal (see Col. 5, lines 1-7 for instance).

As for claim 2, the second signal 44 travels on a path away from the delay loop that first signal 46 travels.

As for claim 3, splitter 42 can divide the energy of the input beam 40 into beams 44 and 46 in any ratio, but for simplicity divides the energy of input beam 40 equally between beams 44 and 46 (Col. 4, lines 46-50).

As for claim 4, see splitter 42.

Regarding claims 7 and 8, Jutamulia (Fig. 2A, for instance) discloses an apparatus for manipulating an optical signal comprising a first splitting device 42 for splitting the optical

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signal into a first signal 46 and a second signal 44, a delaying device comprising a loop formed by mirrors 48, 50, and 52 that delays the first signal with respect to the second signal so that the second signal can be used as a signal undelayed with respect to the optical signal, a second splitting device which is the same as the first splitting device 42 (as per claim 8) that splits the first signal into a first part that is reflected by the splitter and a second part that is transmitted through the splitter, so that the second part of the first signal is a delayed signal that is interferometrically combined with undelayed beam 44, and a repeating device in the form of the mirror loop 48, 50, 52 that provides the first part of the first signal to the splitting device.

As for claim 9, the splitter 42 is a beam splitter.

As for claims 10 and 11, mirrors 48, 50, and 52 comprise a loop that delays the beam and acts as a repeating device to continually delay the beam.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

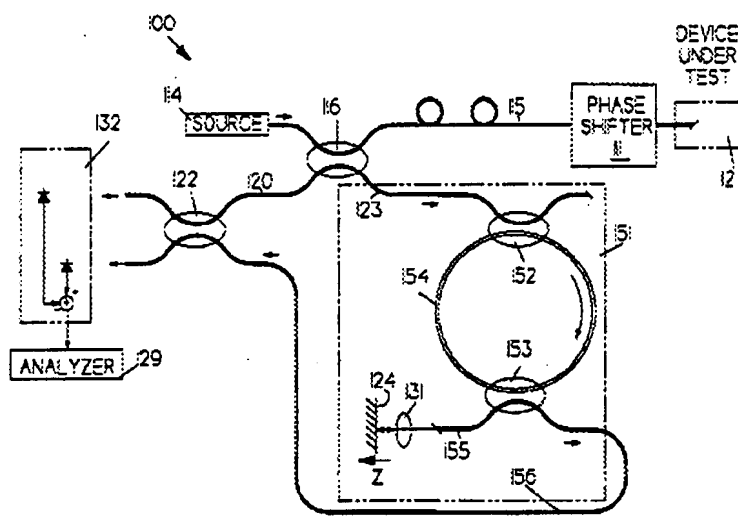
Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jutamulia (5,647,032).

As for claim 6, Jutamulia discloses the claimed invention as set forth above regarding claim 1, but fails to disclose a software program stored on a data carrier for executing the method of claim 1.

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However, Official Notice is taken as to the well known practice of using a computer to operate and control and execute a method for an optical system, and it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a computer program to execute the method of Jutamulia, the motivation being that the computer method will allow for faster, more efficient, more accurate execution of the claimed method than if the method were performed solely by a human operator with no computer assistance.

Claims 5 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baney et al (5,268,738) in view of Jutamulia (5,647,032).



As for claim 5, Baney (Fig. 2) discloses a method comprising splitting an initial light beam from source 114 using coupler 116 into a measurement beam down path 115 and a reference beam down path 123, coupling the measurement beam into the optical device under test 12, letting the reference beam travel a different path as the measurement beam, superimposing the reference beam and the measurement beam at coupler 122 to produce interference, detecting the power of the resulting superimposed light beam at detector 132 as a

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function of the frequency when tuning the frequency of the light beam using phase shifter 111 (see Col. 3, lines 32-52 which describes the function of phase shifter 11 in Fig. 1 which is identical to the phase shifter 111 in Fig. 2), and deriving optical properties of the device under test with analyzer 129.

Baney, however, fails to disclose the manipulating of the reference beam as per instant claim 1.

Jutamulia, as set forth above in the discussion of claim 1, discloses the manipulating of the reference beam.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the beam manipulation method of Jutamulia in the device under test measurement method of Baney, the motivation being that the Jutamulia method requires fewer parts which are all stationary to impart a delay on the reference beam, making the method cheaper and more efficient.

As for claim 12, Baney (Fig. 2) discloses an apparatus comprising a first beam splitter 116 for splitting an initial light beam from light source 114 into a measurement beam down path 115 and a reference beam down path 123 of an interferometer 100, a connecting device 115 for coupling the measurement beam into the optical device under test 12, an apparatus 151 for manipulating an optical signal that lets the reference beam travel a different path as the measurement beam (also fiber 123), a second beam splitter 122 for superimposing the reference beam and the measurement beam to produce interference in a resulting superimposed light beam, a detector 132 for detecting the power of the resulting superimposed light beam as a function of the frequency when tuning the frequency of the light beam using phase shifter 111 (see Col. 3,

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lines 32-52 which describes the function of phase shifter 11 in Fig. 1 which is identical to the phase shifter 111 in Fig. 2), and a processing unit 123 for deriving optical properties of the device under test.

Baney, however, fails to disclose the apparatus for manipulating the reference beam as per instant claim 7.

Jutamulia, as set forth above in the discussion of claim 7, discloses the apparatus for manipulating the reference beam.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the beam manipulation apparatus of Jutamulia in the device under test measuring apparatus of Baney, the motivation being that the Jutamulia method requires fewer parts which are all stationary to impart a delay on the reference beam, making the method cheaper and more efficient.

Conclusion

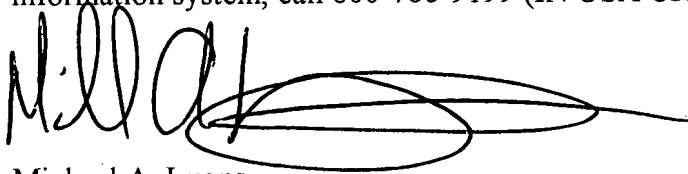
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Pat. 6,606,158 to Rosenfeldt et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A. Lyons whose telephone number is 571-272-2420. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley can be reached on 571-272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'M. Lyons', followed by a large, stylized circular flourish.

Michael A. Lyons
Patent Examiner
October 24, 2007